



# Courting Flavor

**American consumers are seeking novel flavors and tastes. Manufacturers are responding with interpretations of well-known dishes and new creations. *Prepared Foods'* exclusive flavor survey examines the trends expected to impact formulators and manufacturers the most.**

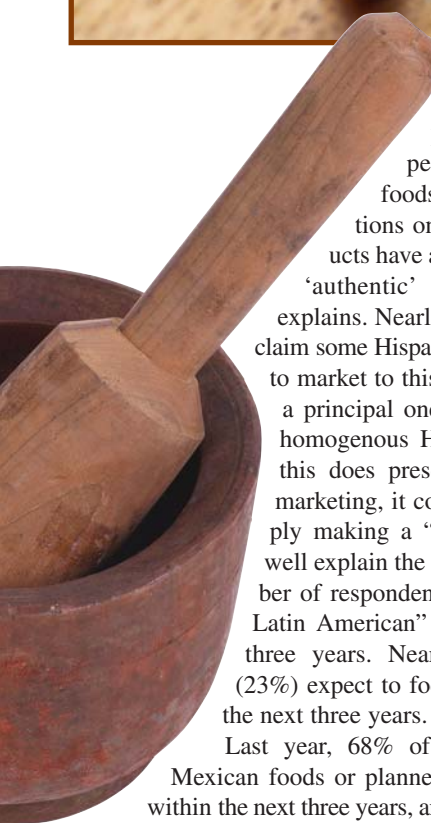
*William A. Roberts, Jr., Business Editor*

In the "2007 *Prepared Foods'* R&D Trends Survey: New Flavoring Systems," 52% of manufacturers said they currently used fruit flavors or would in the next three years, to take the top spot of the dozens of flavors listed on the survey. Generally speaking, in recent years, roughly half of manufacturers have indicated an interest in using "fruit" flavors, and this shows little sign of declining. Further indicating the popularity of fruit flavors is the second-most mentioned flavor on the survey: 49% of respondents use or will implement lemon flavor in their products in the next three years. Lime remained in the third spot, reaching 44%. However, it has still failed to recover completely after a dramatic nine-point fall from its 51% high in 2005. So considering that decline and lime's status as a hallmark of Hispanic flavors, does this portend trouble for Hispanic foods?

Simply put, no. The appeal of any and all ethnic foods cannot be denied, and respondents this year are as curious as ever about them. Asked to list the leading flavor trends that they would like to know more about, 42% of respondents selected "preferences of ethnic groups within North America." Some 35% would like to learn more about "flavorings typical of authentic foreign foods." Furthermore, 43% of respondents have already experienced demands for "more authentic flavors/Americanized ethnic flavoring profiles."

The trend has been an important part of the overall food industry for years, if not decades. Recently, however, there has been a turn toward increased authenticity in these products. According to Laurie Demeritt, president and chief operating officer of the Hartman Group, the popularity of ethnic cuisines stems from a desire to experiment with and explore new foods, a fact noticeable when browsing the eth-



nic options available in the prepared foods market. “When people are attracted to ethnic foods, they make quality attributions on these products, and the products have a higher value due to their more ‘authentic’ and handmade quality,” she explains. Nearly 40 million people in the U.S. claim some Hispanic heritage, but the opportunity to market to this populace also has challenges, a principal one being that there is no single homogenous Hispanic cultural group. While this does present the opportunity for niche marketing, it could present difficulties in simply making a “Hispanic cuisine.” This could well explain the nine-point increase in the number of respondents who market “other regional Latin American” products or plan to do so in three years. Nearly a quarter of respondents (23%) expect to focus upon these cuisines within the next three years.

Last year, 68% of respondents were marketing Mexican foods or planned to bring them to the market within the next three years, and this shows no signs of declining. In 2007, it increased to 71% of respondents. Closely related Tex-Mex cuisine claimed the second spot among 2007’s respondents. This year, 44% claimed it as an ethnic product they currently marketed or would within three years.

Despite an increased amount of positive media coverage of the healthy benefits of Mediterranean fare, less than half of respondents currently market or plan to market foods with “Italian flavors” within the next three years. The 43%

expecting to utilize Italian flavors barely surpassed the 41% who use or plan to incorporate Chinese flavors in products. Asian flavors, in general, experienced surges this year, some more notable than others: double-digit growth could be seen in interest in Thai (a 10-point increase to 32%) and East Indian (up 10 points to 23%) flavors, while the growth was a rather less-pronounced four points for Japanese flavors (to 24% of respondents) and a slight, one-point growth in “other regional Asian” (to 21%). Still, one in five respondents did display an interest in the Asian options available, suggesting this ethnic cuisine remains on the upswing. The Asian category of ethnic flavors includes many Asian countries and features a variety of flavors, including coconut, lemongrass, sesame, soy and teriyaki. Also, as evidenced by the respondents marketing or expecting to bring Indian products to market, Indian food, touted as “the next big thing” for years, still holds promise.

As Timothy Webster, vice president of global business development with a flavor company, explained at *Prepared Foods’* 2005 R&D Applications Seminar, the modern flavorist has to address disparate and multi-cultural consumers. In the process, two different types of flavor systems have evolved—localized and globalized. The local system targets the taste preferences of a particular region. As the geographic area of this market increases, more diverse cultures and taste histories are at play, requiring a new approach and important decisions on how best to develop the proper flavor blend.

As Webster explains, larger corporations are looking to streamline the supply chain, moving to a more global flavor solution—a single flavor system for a product worldwide. The creation of that universally preferred flavor demands a

complex series of decisions and compromises, not to mention cost-containment strategies. Price and logistics are among the foremost concerns, he notes, though other demands are in the offing. In the future, if not now, the fla-

### Forecasting Flavor

Flavor	2007	2006
Fruit	52%	54%
Lemon	49%	48%
Cheese	44%	48%
Lime	44%	42%
Vanilla	44%	48%
Chocolate	42%	45%
Citrus	42%	41%
Butter	40%	49%
Cinnamon	40%	38%
Orange	40%	42%
Organic-certified flavors	40%	38%
Berry	38%	40%
Grilled flavors	36%	31%
Meaty flavors	36%	28%
Smoked flavorings	36%	33%
Heat (e.g., chili)	35%	39%
Savory flavor enhancers	33%	31%
Coffee	31%	27%
Barbecue	28%	34%
Soy sauce	27%	23%
Tropical	27%	29%
Herbal	26%	22%
Sour cream	26%	19%
Cilantro	25%	18%
Hydrolyzed vegetable proteins	22%	24%
Nutty flavors	22%	25%
Tea (green)	22%	24%
Fantasy flavors	21%	14%
Mint	20%	26%
Grapefruit	17%	14%
Sage	17%	14%
Tea (black)	17%	19%
Curry	16%	13%
Cooling (e.g., menthol)	11%	8%
Other	11%	8%

Source: Prepared Foods' flavoring systems survey, January 2007  
Survey base: 2007: n= 149; 2006: n=160



Just Born's Hot Tamales Ice mint-flavored candies offer two flavors that respondents cited as currently in use or expected to increase in the next three years. Mint was cited by 20% of survey respondents, while 11% selected "cooling (e.g., menthol)."

avor will need to be universally accepted from legislative and religious perspectives (kosher was noted by a couple of respondents in the 2007 survey, but there was little interest in halal standards), be non-hazardous for shipping purposes, present no consumer objections from labeling and nutritional standpoints (allergens) and present no consumer objections from an ethical point of view.

Flavor creators, therefore, have been tapped to assist customers in understanding the desires of the consumer and develop flavor systems to complement the operational strategy. For the flavor company to survive, Webster contends, it must reinvent itself, develop new technologies and create strategic alliances to drive costs out of the system while maintaining sufficient margins to support the creativity that makes new food products successful.

### Natural Ability

Some 71% of 2007's respondents say their responsibilities have seen more emphasis on natural flavors, and the survey sought to determine exactly where those natural flavorings can improve. A little more than half of respondents (53%) worried that the products failed to offer a good value for the money in 2007, a total similar to those voicing that concern in last year's survey.

Concerns regarding natural flavors' stability over a finished product's shelflife may not have disappeared in 2007, but they did experience a notable decline. In 2006, 45% of respondents said natural flavorings fall short of remaining stable for the entire shelflife of the finished product. This year, that number fell to 37%, still a sizable amount (and

When asked, "What flavors does your company currently use or consider will be in significant use in the next three years," fruit was the most commonly cited flavor, followed closely by lemon and, slightly further back, by cheese.

## Spices of Life

Spices may be best regarded for their flavoring capabilities, but they also are loaded with potential disease-combating substances. The U.S. Department of Agriculture found that most had greater antioxidant power per gram than various fruits and vegetables. Other studies show that spices often contain substances that fight inflammation and infection, inhibit cancer-causing enzymes and tumor-stimulating hormones and slow the life cycle of cancer cells or promote their destruction. Recent studies show some interesting possibilities:

- **Turmeric.** Based on encouraging animal evidence, scientists have launched several studies in humans to test the benefits of curcumin, the substance that gives turmeric its yellow-orange tint. Researchers at the Alzheimer's Disease Research Center at UCLA are testing curcumin's ability to treat the early stages of the disease. Studies have shown that curcumin may both inhibit and break up the accumulation of destructive proteins in the brain, a hallmark of Alzheimer's disease.

The Cystic Fibrosis Foundation is funding a trial on whether curcumin can block the buildup of mucus in the digestive system of cystic fibrosis patients.

Scientists at M.D. Anderson Cancer Center in Houston are studying curcumin as a possible treatment for multiple myeloma and pancreatic cancer,

based on research showing that it may stop cancer cells from proliferating and cause malignant tumors to self-destruct.

- **Cinnamon.** Another USDA study, this one in humans, found that consuming cinnamon for 40 days reduced blood levels of sugar and triglycerides, a potentially artery-clogging fat, by about 25%; it also cut the "bad" LDL-cholesterol level by nearly 20%. It did not take much — just under half a teaspoon per day.

- **Oregano.** In the USDA study of antioxidants, oregano had three to 20 times more power than other culinary herbs and more than vitamin E. One tablespoon of oregano has about the same antioxidant capacity as an entire apple or banana, a cup of string beans or one half cup of steamed carrots.

- **Sage.** As Alzheimer's disease progresses, the brain produces less acetylcholine, a crucial chemical for memory and thinking. Sage appears to inhibit the chemical's breakdown; its high antioxidant content may further help preserve cognition. A British clinical trial of two dozen healthy young adults found that sage oil taken in pill form boosted memory, alertness and calmness. An earlier, smaller trial by British and New Zealand researchers found evidence that the oil may improve the memory and attention of people with Alzheimer's disease.



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enough to register as the second-ranking concern), but the largest drop this year among concerns about natural flavors.

What worries about natural flavors did emerge this year? More than a quarter of respondents (27%) fear that natural flavoring systems lack "true fidelity to the foods they are to represent," an eight-point increase over 2006 and good enough for the third most-noted concern about natural flavors.

### Taking Notes

Respondents cited that masking bitter and soy notes (13% and 12%, respectively) were important issues to them, whether using natural or synthetic flavors. However, they seemed to lack confidence in the abilities of natural flavors to mask bitter notes (an increase of seven percentage points) and masking soy notes (a 9% increase).

The largest increase in concerns came from those working with synthetic flavors. Worries about masking bitter notes skyrocketed 20% among respondents this year, well more than double the 8% citing similar fears last year. Doubts about synthetic flavors masking soy notes likewise rose, with a smaller seven-point increase to 13%.

Consumers frequently cite health and price as their two main areas of discomfort when it comes to food purchases. While concerns about the ability of a flavoring ingredient to add health benefits grew significantly, respondents were noticeably less worried about them being a good value for the money. Some

### Foreign Legion

	2007	2006
Mexican	71%	68%
Tex-Mex	44%	39%
Italian	43%	40%
Chinese	41%	34%
Thai	32%	22%
Other regional American	30%	21%
Japanese	24%	20%
East Indian	23%	13%
Other regional Latin American	23%	14%
Middle Eastern	21%	13%
Other regional Asian	21%	20%
French	16%	15%
Other regional European	15%	13%
Other regional African	7%	4%
Other	3%	5%

Source: Prepared Foods' flavoring systems survey, January 2007  
Survey base: 2007: n=117; 2006: n=137

The influence of the American Southwest was clear to see when respondents were asked, "What ethnic consumer products does your company currently market or is considering to market in the next three years?"

## Making Use

	2007	2006
Flavor stability	87%	91%
Organic flavors	46%	39%
Bitter blocking	43%	35%
Encapsulation	39%	39%
Sweetness enhancers	37%	39%
Acidity masking	24%	26%
Other	7%	5%

Source: Prepared Foods' flavoring systems survey, January 2007  
Survey base: 2007: n=111; 2006: n=137

40% of 2006 respondents cited "a good value for the money" as an area where synthetic flavorings fell short. This year, price concerns would appear to have become less of an issue, as only 24% of respondents cited them as an area where synthetic flavors fall short—still a sizable number but significantly less than last year.

With health issues playing such a large role in the minds of consumers and developers, the number-one area where synthetic flavorings fall short should be of little shock. Some 38% of respondents fret about their perceived "ability to add health

Prepared Foods' flavoring systems survey asked, "Of the following flavor technologies, which ones are the top three (3) that have been or have the potential to be extremely useful in your food and beverage formulations?" Obviously, respondents were able to select multiple options, but flavor stability was cited by a large majority, with organic flavors and bitter blocking further down the list.

benefits," an 11 percentage point increase over last year. The concern would appear to have some validity, considering the number of supposedly healthy products proudly boasting a complete lack of artificial ingredients.

According to the Mintel Global New Products Database, the last year saw 2,427 new food and beverage products claiming to be all natural. (This search examined new products, new formulations and range extensions between March 2006 and March 2007 in the U.S.) The number is a dramatic increase over the same period just one year prior: between March 2005 and March 2006, only 1,591 new foods and beverages introduced in the U.S. mentioned being all natural. Granted, being "all natural" may not make the products actually more healthy; however, consumer perception is at issue.



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By and large, consumers accept that natural ingredients and flavors are in some way more beneficial (or at least, less harmful) than artificial options. Respondents to *Prepared Foods'* 2007 flavoring systems survey would also appear to believe this is an issue, and well over two thirds (71%) have noted a greater demand for natural flavors in the products for which they are responsible.

The worries of consumers may well stem from the confusion surrounding foods' benefits, in general. As Anton Angelich, group vice president with a flavor supplier, notes, his company gets numerous requests for flavors with health benefits (though taste always is the primary factor). His company has worked with antioxidant properties in a variety of fruit flavors, including wild blueberries, pomegranate and acai

berries; however, Angelich contends, issues relating to the efficacy of antioxidants overall have confused the consumer and have played a role in making them feel safer with products labeled natural and/or organic. In addition, there is the very real possibility that consumer confusion surrounding the term "antioxidants" may well be encouraging companies to opt to describe their products as natural or organic, in an effort to convey possible healthy qualities.

Confectionery products have attempted to improve their health profiles, whether by adding nutrients or eliminating sugar or preservatives. Speaking of sweets, in this year's survey, 37% of food processors said sweetness enhancers had been useful to them or would be in the future, virtually unchanged from last year's responses. With media attention given to obesity and diabetes fears, it is somewhat surprising that this concern only held steady, considering the inherent possibilities of sugar alternatives to sate the desire for a sweet flavor with fewer health risks.

### Meaty Issues

Consumers interested in meat analog products include not only true vegans, but also part-time vegetarians. The latter category is comprised of consumers avoiding meat for a limited time to gain what they perceive as a health boost, to lose weight or to "cleanse" their systems. For many of these consumers, however, the appeal of meaty flavors can be tempting. The challenge for many manufacturers is to find satisfying meat-like flavors for vegetarian foods that are able to withstand manufacturing practices, an issue among respondents to this year's survey.

Some 36% of respondents currently use meaty flavors or plan to use them within the next three years. That is the same percentage that use or expect to use grilled flavors or smoked flavorings in the next three years. The number projecting an increase in smoked flavor usage may well signal a forthcoming trend, considering



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### Tech Sheets

	2007	2006
Flavor stability	55%	62%
Modifying/Masking tastes	55%	54%
Encapsulated flavors	45%	51%
Reduced-sodium benefits	39%	n/a
Modifying heat/Cold perception	17%	25%
Other	2%	5%

Source: Prepared Foods' flavoring systems survey, January 2007  
Survey base: 2007: n=132; 2006: n=146

recent product introductions have not shown an abundance of smoky flavors, per se.

A search of the GNPD between March 2006 and March 2007 shows a relatively few 62 new foods boasting smoke or smoke (hickory) flavors. (Again, these are searches for new products, range extensions or new formulations released in the U.S.) Over the past three years, between March of 2004 and March of 2007, only 172 new products have touted those particular flavors.

As in the 2006 survey, 39% believe encapsulation is among the top three flavor technologies that either are or have the

Prepared Foods' flavoring systems survey asked, "What type(s) of ingredients would you like to know more about regarding technical and/or processing benefits?" Flavor stability and modifying/masking taste perception tied for the top spot.

potential to be extremely useful in food and beverage formulations. The topic also topped the list of emerging flavor technologies that respondents would like to learn more about.

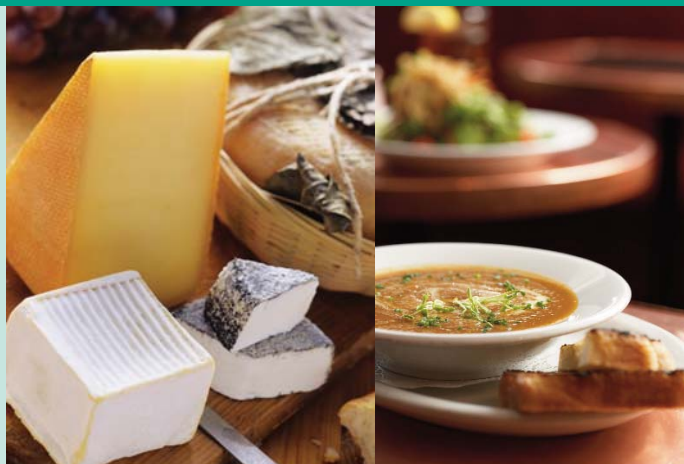
In 2006, 91% of those surveyed ranked flavor stability as the top flavor technology that has been and has the potential to be extremely useful in food and beverage formulations, and a similar number shared that sentiment in 2007. The 87% this year is well ahead of all other responses. Following far behind were 46% expressing interest in organic flavors and 43% worried about bitter blocking—though these rose seven and nine points, respectively.

Some 38% of respondents regard frozen foods as the products under development most in need of flavoring, enough to take the top position among responses. The challenges for frozen foods, in general, are numerous: extreme conditions, product longevity and freeze/thaw cycles, to name a few. Of course, as evidenced by the opinions and responses in Prepared Foods' flavoring systems survey, challenges for formulators are numerous as well. **PF**

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